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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,557	01/30/2004	Dennis R. Maiello	77012-325634	5858
58506	7590	10/19/2006	EXAMINER	
FAEGRE & BENSON, LLP ATTN: PATENT DOCKETING 90 SOUTH SEVENTH STREET 2200 WELLS FARGO CENTER MINNEAPOLIS, MN 55402			PRICE, CARL D	
			ART UNIT	PAPER NUMBER
			3749	

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/769,557

Applicant(s)

MAIELLO ET AL.

Examiner

CARL D. PRICE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07/31/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-9, 11-17, 19 and 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9, 11-17, 19 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims **1-5, 7-9, 11-17, 19** and **21-24** have been considered but are moot in view of the new ground(s) of rejection.

Applicant has amended the claims to be of a scope not previously considered. Consistent with applicant's argument that the prior art relied on in the previous office action fail to show, disclose and/or teach certain aspects of applicant's invention now recited in the claims filed on 07/31/2006, applicant has amended the claims to for example include the following:

(Claim 1)

"...the aperture formed of a grid of openings, the venting enclosure and the aperture adapted to reduce the turbulence flow of air in the combustion chamber, ..."

In this regard applicant argues that the prior art of record fails to show and/or teach the invention as now claimed. The Examiner disagrees. The prior art references of **US004111181 (Caney)** (newly cited) or **US005701882 (Champion)** (of record), as well as **US000485772 (Peel)**, are now relied on to teach that it would have been obvious to a person having ordinary skill in the art to modify the panels of **US003533394 (Rose)** to include a plurality of openings forming a "grid" oriented, in the front portion of the combustion chamber, to influence a generally non-turbulent flow of gases within the upper portion of the combustion chamber.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

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regards as the invention. In each of these claims, it is unclear what relationship, or in what manner, the now claimed “turbulent flow of air” is associated with the other elements recited in the claim, such that the “turbulent” flow is necessarily reduced. That is, for example, it is unclear from where the “turbulent flow of air” originates. Does the air enter the chamber from the chamber front opening? Is “air” intended to mean exhaust products produced during combustion which are mixed with air flowing into the chamber directly from the chamber front opening? What characteristic of the claimed arrangement necessarily produces a “turbulent flow of air”? It is also unclear how merely forming the aperture as a grid necessarily affects, by “reduced”, the turbulent air flowing or present “in” the combustion chamber. Is applicant intending to claim that exhaust products produced in the chamber during combustion of a fuel are mixed with air flowing into the chamber directly from the chamber front opening and exit the chamber through the aperture? And, wherein the grid and its associated elements reduce any turbulence present in the mixture of air and exhaust products, or simply the exhaust “gases” and not “air”, as they pass therethrough? See applicant’s specification page 8 at lines 13-18 and pages 8, line 27- page9, line 21, which states the following:

“Top panel 40 includes first and second sides 80, 82, front and rear portions 84, 86, and plurality of openings 88 formed across the front portion 84 between the first and second sides 80, 82. In other embodiments, the openings 88 may be replaced with a single large opening or only a few larger openings, although the grid of openings 88 shown in Figure 3 may be particularly useful for directing turbulent air flow within combustion chamber 52 into chambers of the venting assembly 14.”

“For example, it is common in most combustion chambers in which heat is generated that the combustion gases and waste products produced during combustion move upward toward the top panel 40 and create turbulence as those gases hit the top 30 panel 40. If there is not proper venting across the front portion 54 of combustion chamber 52, these turbulent gases will begin to spill out of the combustion chamber enclosure 12, particularly near the side panels 46, 48 of the combustion chamber enclosure where it is typically least likely that sufficient venting is provided. To address this problem, the first and second side openings 97, 99 of second panel 60 are positioned adjacent to respective first and second sides 90, 92 and along front portion 94 so that maximum airflow is possible at those areas where spillage combustion chamber 52 is most likely to occur.

The third panel 62 is spaced apart from the second panel 60 and includes a vent pipe opening 69 into which a vent pipe 68 is inserted. The first and second side panels 64, 66 and front and rear panels 65, 67 extend between the third panel 62 and the top panel

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40, thereby creating first and second venting chambers 61, 63 (see Figure 4). The chambers 61, 63 may provide different functions in different embodiments.

In one embodiment, chamber 61 in conjunction with top panel 40 may be useful **for reducing turbulence in the air flow as the air flow enters the venting assembly 14**, and chamber 63 in conjunction with second panel 60 may be useful for providing air flow from certain areas of the combustion chamber (e.g., at sides 90, 92 and along front portion 94). The venting assembly design shown in Figures 1-4 may be particularly useful for creating proper flow of combustion gases out of the combustion chamber with a device that having a relatively short height. It is recognized, however, that many other embodiments are possible that provide the same, similar, or even enhanced results and that fall within principles of the invention.”

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims Rejected under 35 U.S.C. 103(a)

Claims 1-3, 7-9, 11-13, 15-17, 19, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over US003533394 (Rose) in view of US000485772 (Peel), US004111181 (Caney) (newly cited) or US005701882 (Champion) (of record).

US003533394 (Rose) shows and disclose an apparatus and method of extracting heat from a fireplace combustion chamber (30) of an open fireplace during combustion of fuel in the combustion chamber, the apparatus and method comprising:

- emanating radiant heat out of the combustion chamber through the opening (28) of the fireplace;

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- drawing substantially all combustion gases and heated air from the combustion chamber through a venting assembly (50, 52);
- removing heat from the drawn combustion gases and heated air with a heat transfer device (36, 45, 46);
- wherein the emanating step includes emanating infrared heat from panels (e.g. – 76, 78) that define the combustion chamber and a burner plate (67) assembly of the fireplace;
- wherein the venting assembly includes a first opening (76, 78) into the combustion chamber that is oriented near a front portion of the combustion chamber, and the drawing step includes providing a vacuum force at the first opening.

Regarding claims 1 and 9, in particular, the housing portions (46, 60) of **US003533394 (Rose)** are deemed the structural and functional equivalent to applicant's broadly claimed a second panel having an opening in fluid communication with the first panel opening and being spaced apart from the first panel to define a first venting chamber there between.

Regarding claims 15 and 19, in particular, a middle panel (45) of **US003533394 (Rose)** is positioned in the housing member to divide the housing member into first and second vent chambers, the first vent chamber being in fluid communication with the opening (76, 78) in the top panel, and the second vent chamber being in fluid communication with the exhaust opening (60), the middle panel including an opening (80) providing fluid communication between the first (at 45, 76, 78, etc.) and second vent (50) chambers.

US003533394 (Rose) shows and discloses the invention substantially as set forth in the claims with possible exception to the first panel include having a plurality of openings or grid, n the front portion of the combustion chamber, and another panel includes a plurality of openings generally in alignment with the plurality of openings in the first panel.

US000485772 (Peel) teaches, from applicant's same open front fireplace field of endeavor, providing a first panel (C) including a plurality of openings oriented in the front portion of the combustion chamber, and another panel includes an opening (L) generally in

alignment with the plurality of openings (F) in the first panel, for permitting varying combustion exhaust gas and air mixture flows suitable for startup and normal operation of the combustor.

US004111181 (Caney) teaches, from applicant's same open front fireplace field of endeavor, providing a first panel (32,52) including a plurality of openings (65), forming a "grid" (55, 70) oriented in the front portion of the combustion chamber, and another panel includes an opening (146) generally in alignment with the plurality of openings in the first panel which, as shown by the arrows (19, 24, 144) representing the flow of combustion exhaust gases, influence a generally non-turbulent flow of gases within the upper portion of the combustion chamber.

US005701882 (Champion) teaches, from applicant's same open front fireplace field of endeavor, providing a first panel (23) including a plurality of openings (25), forming a "grid" oriented, in the front portion of the combustion chamber, and another panel includes an opening (not referenced; through which air (21) flows) generally in alignment with the plurality of openings in the first panel which, as shown by the arrows 26 in figure 1 representing the flow of combustion exhaust gases, influence a generally non-turbulent flow of gases within the upper portion of the combustion chamber.

In regard to claims 1-3, 7-9, 11-13, 15-17, 19, 21 and 22, for the purpose of permitting for permitting varying combustion exhaust gas and air mixture flows suitable for startup and normal operation of the combustor, it would have been obvious to a person having ordinary skill in the art to modify the panels of **US003533394 (Rose)** to include a plurality of openings, in view of the teaching of **US000485772 (Peel)**. With regard to the third panel having a plurality of openings, since the number of openings in the second panel would depend on design concerns such as the width of the exhaust opening, to for the third opening as a plurality of openings can be viewed as nothing more than merely a matter of choice n design absent the showing of any new or unexpected results over the prior art of record. Alternatively, in view of the teachings of **US004111181 (Caney)** or **US005701882 (Champion)** it would have been obvious to a person having ordinary skill in the art to modify the panels of **US003533394 (Rose)** to include a plurality of openings forming a "grid" oriented, in the front portion of the combustion chamber, to influence a generally non-turbulent flow of gases within the upper portion of the combustion chamber.

Claims Rejected under 35 U.S.C. 103(a)

Claims **4, 5, 14, 23** and **24** are rejected under 35 U.S.C. 103(a) as being unpatentable over **US003533394 (Rose)** in view of **US005169301 (Donnelly et al)**.

US003533394 (Rose) shows and discloses the invention substantially as set forth in the claims with possible exception to a flow sensor configured to determine fluid flow out of the exhaust opening and provide a flow signal wherein the combustion control device configured to control combustion within the combustion chamber in response to the flow signal.

US005169301 (Donnelly et al) discloses an air safety system for use with a heating source of the type including:

- an open front surface for the free flow of air into and out of a combustion chamber (not shown) of the heating source, the system being configured to draw substantially all combustion gases produced in the combustion chamber out of the fireplace through an exhaust opening, the safety system comprising:
 - a flow sensor configured to measure fluid flow out of the exhaust opening and provide a flow signal; and
 - a combustion control device configured to control combustion in the combustion chamber in response to the flow signal;
 - wherein when the flow signal indicates fluid flow below a predetermined rate, the combustion control device shuts off combustion in the combustion chamber (see column 42-47).

In regard to claims **4, 5, 14, 23** and **24**, for the purpose of forming an air safety system, it would have been obvious to a person having ordinary skill in the art to modify **US003533394 (Rose)** to include to a flow sensor configured to determine fluid flow out of the exhaust opening and provide a flow signal wherein the combustion control device configured to control combustion within the combustion chamber in response to the flow signal, in view of the teaching of **US005169301 (Donnelly et al)**.

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Conclusion

See the attached USPTO for, 892 for prior art made of record and not relied upon which is considered pertinent to applicant's disclosure.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

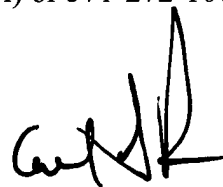
USPTO CUSTOMER CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARL D. PRICE whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on (571) 272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Carl D. Price', with a stylized, elongated final stroke.

CARL D. PRICE

Primary Examiner

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CP